

Nicole E. Granquist  
ngranquist@downeybrand.com  
916/520-5369 Direct  
916/520-5769 Fax

621 Capitol Mall, 18<sup>th</sup> Floor  
Sacramento, CA 95814  
916/444-1000 Main  
916/444-2100 Fax  
downeybrand.com

April 30, 2015

**VIA U.S. MAIL AND ELECTRONIC MAIL**

Ms. Dyan Whyte  
Assistant Executive Officer  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

Re: *1st Quarter 2015 Report – June 27, 2013 Amended Water Code section 13267 Order, Order No. R2-2013-1005-A1, Directives 8.f and g.- Chronic Toxicity*

Dear Ms. Whyte:

Enclosed, in accordance with the Regional Water Quality Control Board, San Francisco Bay Region's ("Regional Water Board"), June 27, 2013 amended Water Code section 13267 Order, Order No. R2-2013-1005-A1, ("Order"), Lehigh Southwest Cement Company ("Lehigh") provides and encloses the 1st Quarter 2015 Monitoring Report pursuant to Directives 8.f. and 8.g. of that Order. Consistent with recent modification of the Order's monitoring requirements (T. Yin, personal communication, to P. Bedore on September 9, 2014), testing of Pond 9 water was conducted because the pond is to be monitored twice yearly – once during the dry season and once during the wet season. For Pond 9, wet season testing occurred in Q1 2015.

Chronic WET testing in the 1<sup>st</sup> quarter of 2015 with *Ceriodaphnia dubia* indicated <1 TUc towards survival at all sites, and <1 TUc towards reproduction at Pond 9, Pond 13, and Pond 14. Pond 9, 13, and 14 samples did not exceed the *C. dubia* toxicity triggers described in the Water Code section 13267 Investigative Order (i.e., > 2 TUc single sample maximum or >1 TUc for a three sample median). Reproduction TUc at Pond 4A was 2.5. Thus, the reproductive end-point for the Pond 4A sample exceeded the 2 TUc single sample maximum *C. dubia* toxicity trigger.

Consistent with Lehigh's ongoing TRE for *C. dubia* in Pond 4A, samples used in corresponding bioassay testing were analyzed for trace metal constituents. The nickel concentration in a composite of the three renewal samples collected from Pond 4A was 25 µg/L. This concentration is sufficiently high to fully explain observed toxicity. As previously reported in updates to Lehigh's TRE, nickel is suspected to be the principal contributor to *C. dubia* toxicity and has been sourced to quarry water discharged to Pond 4A. Because toxicity in the Pond 4A sample can be attributed to nickel, no further TRE-related investigation was conducted for this sample.

The memo *TRE Progress Update and Future TRE Activities*, dated September 30, 2013, stated: “Upon installation and start-up of the full-scale treatment system, Lehigh will confirm the control of toxicity under the full-scale operational conditions of its treatment system. Thus, the return to a quarterly monitoring schedule would not mark a conclusion of the TRE, given Lehigh’s need to confirm toxicity control upon construction of appropriate full-scale treatment facilities. Efforts at confirmation of toxicity control will occur at a time when Lehigh begins operation of its interim treatment process, anticipated in October 2014.” The Interim Treatment System (ITS) began operation in late 2014, but was still undergoing testing and operational adjustments in Q4 2014. In Q1 2015, the ITS influent and treated water were collected and tested to determine removal of *C. dubia* toxicity.

ITS influent showed a reproductive end-point TUC of 2.0 for *C. dubia* (reproduction IC25 of 48.9% influent). The treated water showed less reproductive inhibition, but still exhibited reproductive end-point TUC of 1.3 (reproduction IC25 of 77.0% effluent). Metals testing on composites of the three renewal samples had 64 µg/L of nickel in ITS influent and 16 µg/L of nickel in ITS treated water. These exceed the value of 5.7 µg/L that is the empirical reproduction IC25 derived for *C. dubia* in buffered synthetic simulated site water from experiments performed in 2013. Thus, although the ITS is achieving >75% removal of nickel, concentrations of nickel appear high enough to explain toxicity still present in ITS treated water. Effects of minerals and/or other metals cannot be ruled out, however, and so continued metals and minerals analyses are anticipated in 2015, as well as a continued evaluation of the ITS performance, as it becomes optimized, and related statistical analyses.

Complete 1st quarter 2015 chronic WET results are contained in the report prepared by Pacific EcoRisk. Metals concentrations measured in Pond 13 samples are contained in the report prepared by Alpha Analytical.

If you or your staff have any questions regarding the above report or enclosed documents, please do not hesitate to contact me or Greg Knapp at Lehigh.

Very truly yours,

*Nicole E. Granquist*

Nicole E. Granquist

Enclosure

Cc: Brian Thompson, Regional Water Quality Control Board, San Francisco Bay Region  
Greg Knapp, Director Environmental Region West, Lehigh